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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,597	10/05/2005	Brian J Kane	125277	1888

25944 7590 09/19/2006

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EXAMINER

KRISHNAMURTHY, RAMESH

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/549,597	KANE, BRIAN J	
	Examiner	Art Unit	
	Ramesh Krishnamurthy	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 7 and 10 - 14 is/are rejected.
- 7) ☒ Claim(s) 8 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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This office action is responsive to communications filed 08/03/2006.

Claims 1 – 14 are pending.

1. The specification lacks proper section headings such as Introduction, Summary of Invention, Brief Description of Drawings, etc. See MPEP 608.01(a).

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 12 – 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 identifies the spring cup by the reference number (14) whereas the figures and the specification use the reference number (22), rendering the claims confusing.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1, 5, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Coulter (US 3,457,949).

Coulter discloses a non-return valve (Figs. 1 – 6) comprising a hollow sealing piston (54) received in a valve housing (10) and biased against a valve seat (40) by means of a spring (84) in a basic position, so that in the basic position a pressure medium connection between two working ports (34, 48) in the direction of flow therethrough is closed, characterized in that the sealing piston is manufactured by a plastics injection molding technique. A star configuration of bores (76) is disclosed through which the pressure medium may flow into a spring chamber and guide projections (78) are formed between the bores (76). The sealing piston (54) has a receiving cone (58) having a rounded head (near (66)).

7. Claims 2 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Coulter in view of Crosby et al. (US 4,695,602).

The patent to Coulter discloses the claimed invention including the limitation that the sealing piston (54) is made of a plastic material by molding. In this office action the plastic material in Coulter is taken to include all known types of plastic including the known PEEK material as well a plastic material that is reinforced with 30% of carbon fiber.

However, should it be determined that the plastic material in Coulter does not include PEEK or that it does not include a plastic material that is reinforced with 30% of carbon fiber, it would have been obvious to one of ordinary skill in the art at the time the

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invention was made to have provided in Coulter a PEEK material or a plastic material that is reinforced with 30% of carbon fiber, for the purpose of providing desired mechanical strength as evident from Crosby et al.

8. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coulter as applied to claims 1, 5, 10 and 11 above, and further in view of Collins (US 2,755,816).

Coulter discloses the claimed invention with the exception of explicitly disclosing a multiplicity of recesses on the exterior of the outer periphery of the sealing piston.

Collins discloses a check valve having sealing piston (17) provided with a multiplicity of recesses (21) for the purpose of providing smooth guidance of the piston within the valve housing. Axial webs delimiting the recesses (21) are clearly disclosed (Fig. 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the sealing piston in Coulter, a multiplicity of recesses with axial webs delimiting the recesses for the purpose of providing smooth guidance of the piston within the valve housing, as recognized by Collins.

It is noted that provision of six recesses and four bores is a design expedient over those features disclosed in the combination of Coulter and Collins in that it provides no new and/or unexpected result nor solves any stated problem.

9. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coulter as applied to claims 1, 5, 10 and 11 above, and further in view of Masuyama et al. (US 5,092,361).

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The patent to Coulter discloses the claimed invention with the exception of explicitly disclosing the spring cup to be made of plastic. Coulter discloses a spring cup (18) without explicitly stating the material it is made out of.

Masuyama et al. discloses a check valve with a piston (12) and a spring cup (14) both of which are made of plastic material for the purpose of lowered cost and weight of the valve.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Coulter a spring cup made of plastic for the purpose of lowered cost and weight of the valve, as evident from Masuyama et al. It is noted that Masuyama et al. discloses a sealing lip on the periphery of the spring cup at (17,18) (Fig. 4).

10. Claims 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claim 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

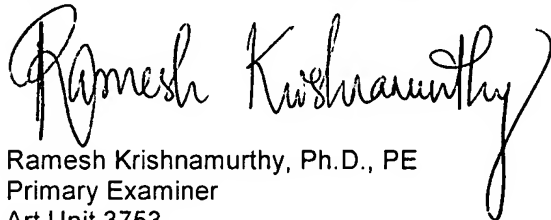
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is (571) 272 – 4914. The examiner can normally be reached on Monday - Friday from 10:00 AM to 6:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel, can be reached on (571) 272 – 4929. The fax phone number for the organization where this application or proceeding is assigned is (571) 273 – 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, reading "Ramesh Krishnamurthy". The signature is fluid and cursive, with the first name "Ramesh" and last name "Krishnamurthy" clearly distinguishable.

Ramesh Krishnamurthy, Ph.D., PE
Primary Examiner
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